Applicants respectfully submit that the pending claims, as amended, are patentable for at least the following reasons.

Amended independent claim 1 is directed to a method of improving the recognition accuracy of a speech recognizer, comprising the steps of: deploying the speech recognizer in an environment to receive live input data; receiving live input data; without supervision, applying a given adaptation algorithm to the received live input data as it is being recognized to improve the recognition accuracy of the speech recognizer; and redeploying the adapted speech recognizer in the target environment.

Sabourin, as read by the applicants, relates to a method and apparatus for providing unsupervised adaptation of transcriptions.

Applicants can find nothing in Sabourin that teaches applying a given adaptation algorithm to the received live input data as it is being recognized to improve the recognition accuracy of the speech recognizer; and redeploying the adapted speech recognizer in the target environment, as recited in amended independent claim 1. Amended independent claims 14 recites similar limitations.

Sabourin teaches spoken utterances are digitized and stored on a non-volaitle storage medium such as a hard-disk or magnetic tape, see col. 9, lines 60-62. Thereafter, a recognized orthography is formed and sent to transcription adaptation module 112 along with a speech token via controller unit 116 in order to modify the speech recognition dictionary, see col. 12, lines 53-56.
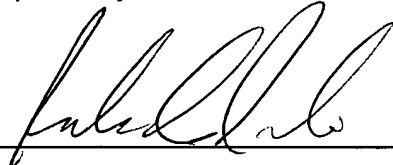
In contrast, the Applicant teaches that the adaptation routine can be exercised against the recognition data on-the-fly, namely, as live input data is

being recognized, see page 11, lines 7-10. Consequently, the adaptation occurs in real-time.

It is well settled that a reference that does not teach, show or suggest all of the features of a claimed invention cannot anticipate that invention. Since Sabourin does not teach, show or suggest all of the features of amended independent claims 1 and 14, as recited above, applicant respectfully submits that claims 1 and 14, and new claim 16 are patentable over Sabourin.

In view of the foregoing amendments and remarks, favorable reconsideration and early passage to issue of the present application are respectfully solicited.

Respectfully submitted,

By _____

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CERTIFICATE OF MAILING

It is hereby certified that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to:

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On _March 1, 2002_

By _(signature)_

Rick dePinho, Reg. 41703

<u>VERSION WITH MARKING TO SHOW CHANGES MADE</u>

<u>IN THE SPECIFICATION</u>

Please replace the following paragraphs with the below written paragraphs:

the three consecutive paragraphs beginning on page 7, line13:

--Figures 3A and 3B are tables illustrating the results of testing a Word Bigram Statistics adaptation algorithm;

Figures 4A and 4B are tables illustrating the results of testing a phonetic dictionary adapatation;

Figure 2~~5~~ is a graph illustrating the results of combining two adaptation algorithms, the HMM adaptation, and the Word Bigram Statistics adaptation.--

the paragraph beginning on page 14, line 19:

--For these experiments, the ASR engine's first-pass Viterbi search graph was biased with word bigram data extracted from subsets of the recognition results on given development input data. The result transcriptions (i.e., recognition hypotheses) were randomized and then various sized portions, starting form the to-choice down, were taken to accumulate word pair frequencies. A variation on this experiment imposed a score threshold on the recognition results as the sub-setting mechanism. These counts were converted into probabilities, and these probabilities were used to bias the Viterbi search in favor of the most likely word sequences. The main results of these experiments are summarized in the table illustrated ~~in Figures 3A 3B~~<u>below</u>

<u>[Insert tables from Figures 3A and 3B]</u>

.--

the paragraph beginning on page 17, line 12:

--The tables illustrated ~~in Figures 4A-4B~~ below show the experimental

results for the Names task.

[Insert tables from Figures 4A and 4B]

--

the paragraph beginning on page 18, line 7:

--As described earlier, each of the above approaches is fairly orthogonal.

Thus, two or more of these adaptation methods may be combined to produce an

additive benefit. A simple combination of the HMM and Bigram adaptation

generated the results illustrated in Figure 2~~5~~. Combining these adaptation

algorithms had a somewhat less than additive effect of the development test

data, and a somewhat more than additive effect on the evaluation test data. The

combined improvement in both cases approached 18%.--

IN THE CLAIMS

Please add new claim 16 and amend the claims as follows:

1. (Amended) A method of improving the recognition accuracy of a speech

recognizer, comprising the steps of:

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deploying the speech recognizer in an environment to receive live input data;

collecting receiving live input data and associated recognition responses;

without supervision, applying a given adaptation algorithm to the received live input data as it is being recognized information to improve the recognition accuracy of the speech recognizer; and

redeploying the adapted speech recognizer in the target environment.

14. (Amended)　　　A method of improving the recognition accuracy of a speech recognizer deployed in an environment to receive live input data, comprising the steps of:

collecting receiving live input data and associated recognition responses; and

without supervision, applying a given speaker-independent adaptation algorithm to the collected received live input data as it is being recognized information to improve the recognition accuracy of the speech recognizer.

Please add new claim 15.

16. (New)　　A computer-readable memory medium including code for improving the recognition accuracy of a speech recognizer in an environment to receive live input data, the code comprising:

receiving code to enable live input data reception;

applying code to apply a given adaptation algorithm to the received live input data as it is being recognized to improve the recognition accuracy of the speech recognizer; and

updating code to apply the adapted speech recognizer in the target environment.